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Washington, D.C. 20231

TRANSMITTAL OF FORMAL DRAWINGS

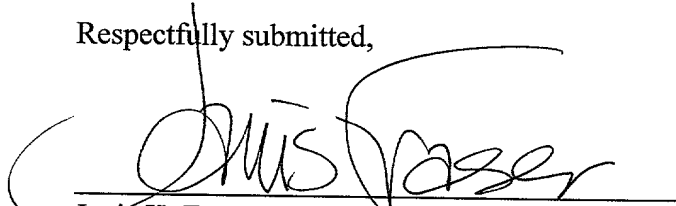
In response to the Notice to File Corrected Application Papers mailed April 17, 2001, please substitute the enclosed 8 sheets of formal drawings for the corresponding drawings presently in the application.

Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date:

Aug. 16, 2001

  
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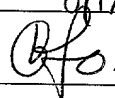
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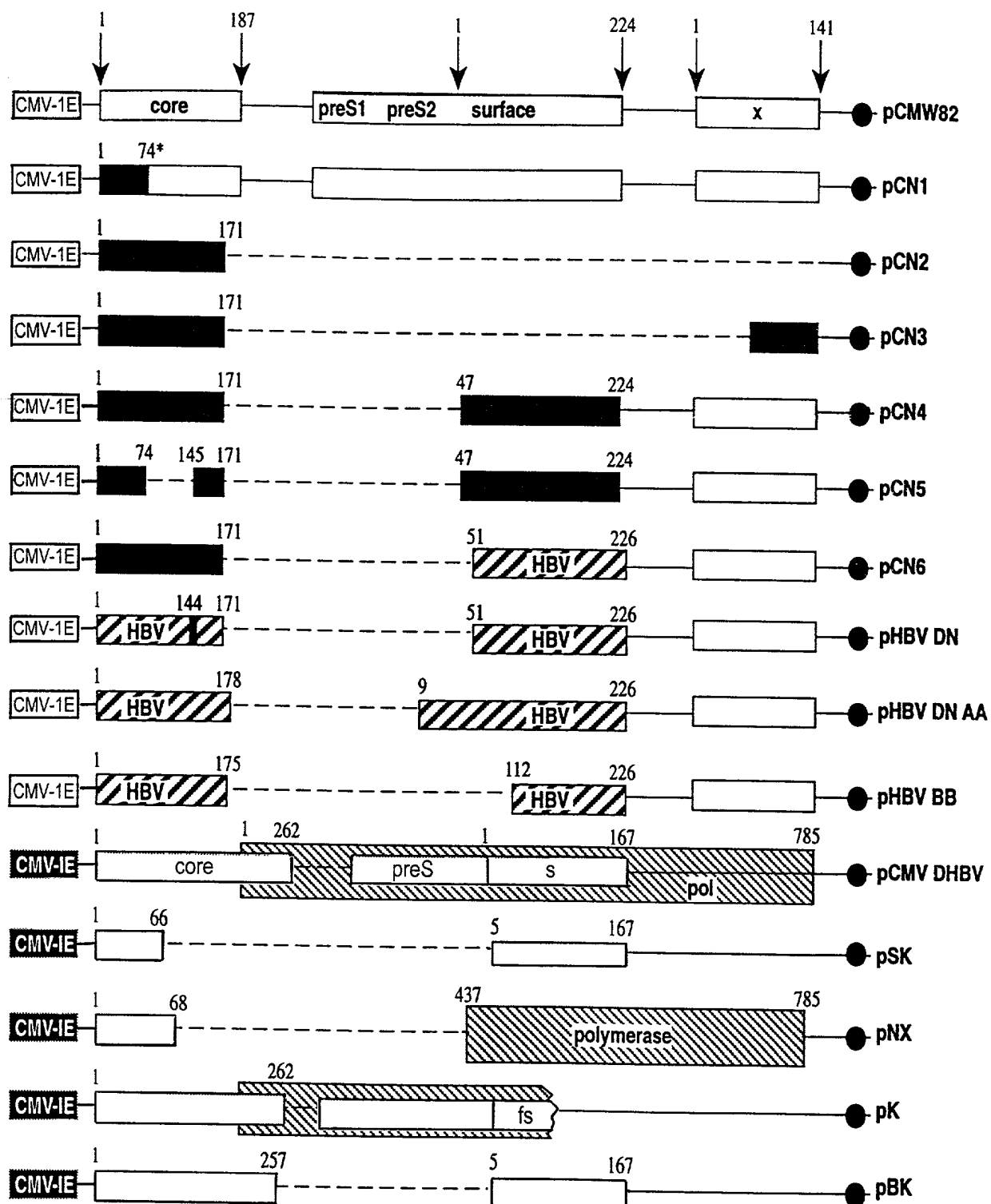


FIG. 1



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1      /      1      31      /      11
ATG GAC ATC GAC CCT TAT AAA GAA TTT GGA GCT ACT GTG GAG TTA CTC TCG TTT TTG CCT
met asp ile asp pro tyr lys glu phe gly ala thr val glu leu leu ser phe leu pro
61    /      21      91    /      31
TCT GAC TTC TTT CCT TCA GTA CGA GAT CTT CTA GAT ACC GCC TCA GCT CTG TAT CGG GAA
ser asp phe phe pro ser val arg asp leu leu asp thr ala ser ala leu tyr arg glu
121   /      41      151  /      51
GCC TTA GAG TCT CCT GAG CAT TGT TCA CCT CAC CAT ACT GCA CTC AGG CAA GCA ATT CTT
ala leu glu ser pro glu his cys ser pro his his thr ala leu arg gln ala ile leu
181   /      61      211  /      71
TGC TGG GGG GAA CTA ATG ACT CTA GCT ACC TGG GTG GGT GTT AAT TTG GAA GAT CCA GCG
cys trp gly glu leu met thr leu ala thr trp val gly val asn leu glu asp pro ala
241   /      81      271  /      91
TCT AGA GAC CTA GTA GTC AGT TAT GTC AAC ACT AAT ATG GGC CTA AAG TTC AGG CAA CTC
ser arg asp leu val val ser tyr val asn thr asn met gly leu lys phe arg gln leu
301   /     101      331  /     111
TTG TGG TTT CAC ATT TCT TGT CTC ACT TTT GGA AGA GAA ACA GTT ATA GAG TAT TTG GTG
leu trp phe his ile ser cys leu thr phe gly arg glu thr val ile glu tyr leu val
361   /     121      391  /     131
TCT TTC GGA GTG TGG ATT CGC ACT CCT CCA GCT TAT AGA CCA CCA AAT GCC CCT ATC CTA
ser phe gly val trp ile arg thr pro pro ala tyr arg pro pro asn ala pro ile leu
421   /     141      451  /     151
TCA ACA CTT CCG GAA CAT ACA GTC ATT AGA AGA GGA GGT GCA AGA GCT TCT AGG TCC CCC
ser thr leu pro glu his thr val ile arg arg gly gly ala arg ala ser arg ser pro
481   /     161      511  /     171
AGA AGA CGC ACT CCC TCT CCT CGC AGG AGA AGA TCC CAA AAT TCG CAG TCC CCA ACC TCC
arg arg arg thr pro ser pro arg arg arg arg ser gln asn ser gln ser pro thr ser
541   /     181      571  /     191
AAT CAC TCA CCA ACC TCT TGT CCT CCA ACT TGT CCT GGT TAT CGC TGG ATG TGT CTG CGG
asn his ser pro thr ser cys pro pro thr cys pro gly tyr arg trp met cys leu arg
601   /     201      631  /     211
CGT TTT ATC ATC TTC CTC TTC ATC CTG CTG CTA TGC CTC ATC TTC TTG TTG GTT CTT CTG
arg phe ile ile phe leu phe ile leu leu leu cys leu ile phe leu leu val leu leu
661   /     221      691  /     231
GAC TAT CAA GGT ATG TTG CCC GTT TGT CCT CTA ATT CCA GGA TCC TCA ACA ACC AGC ACG
asp tyr gln gly met leu pro val cys pro leu ile pro gly ser ser thr thr ser thr
721   /     241      751  /     251
GGA CCA TGC CGG ACC TGC ATG ACT ACT GCT CAA GGA ACC TCT ATG TAT CCC TCC TGT TGC
gly pro cys arg thr cys met thr thr ala gln gly thr ser met tyr pro ser cys cys
781   /     261      811  /     271
TGT ACC AAA CCT TCG GAC GGA AAT TGC ACC TGT ATT CCC ATC CCA TCA TCC TGG GCT TTC
cys thr lys pro ser asp gly asn cys thr cys ile pro ile pro ser ser trp ala phe
841   /     281      871  /     291
GGA AAA TTC CTA TGG GAG TGG GCC TCA GCC CGT TTC TCC TGG CTC AGT TTA CTA GTG CCA
gly lys phe leu trp glu trp ala ser ala arg phe ser trp leu ser leu leu val pro
901   /     301      931  /     311
TTT GTT CAG TGG TTC GTA GGG CTT TCC CCC ACT GTT TGG CTT TCA GTT ATA TGG ATG ATG
phe val gln trp phe val gly leu ser pro thr val trp leu ser val ile trp met met
961   /     321      991  /     331
TGG TAT TGG GGG CCA AGT CTG TAC AGC ATC TTG AGT CCC TTT TTA CCG CTG TTA CCA ATT
trp tyr trp gly pro ser leu tyr ser ile leu ser pro phe leu pro leu leu pro ile
1021  /     341
TTC TTT TGT CTT TGG GTA TAC ATT TAA
phe phe cys leu trp val tyr ile OCH

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FIG. 3





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1   /   1                               31  /   11
ATG GAT ATC AAT GCT TCT AGA GCC TTA GCC AAT GTG TAT GAT CTA CCA GAT GAT TTC TTT
met asp ile asn ala ser arg ala leu ala asn val tyr asp leu pro asp asp phe phe
61  /   21                               91  /   31
CCA AAA ATA GAT GAT CTT GTT AGA GAT GCT AAA GAC GCT TTA GAG CCT TAT TGG AAA TCA
pro lys ile asp asp leu val arg asp ala lys asp ala leu glu pro tyr trp lys ser
121 /   41                               151 /   51
GAT TCA ATA AAG AAA CAT GTT TTG ATT GCA ACT CAC TTT GTG GAT CTT ATT GAA GAC TTC
asp ser ile lys lys his val leu ile ala thr his phe val asp leu ile glu asp phe
181 /   61                               211 /   71
TGG CAG ACT ACA CAG GGC ATG CAT GAA ATA GCC GAA TCA TTA AGA GCT GTT ATA CCT CCC
trp gln thr thr gln gly met his glu ile ala glu ser leu arg ala val ile pro pro
241 /   81                               271 /   91
ACT ACT ACT CCT GTT CCA CCG GGT TAT CTT ATT CAG CAC GAA GAA GCT GAA GAG ATA CCT
thr thr thr pro val pro pro gly tyr leu ile gln his glu glu ala glu glu ile pro
301 /  101                               331 /  111
TTG GGA GAT TTA TTT AAA CAC CAA GAA GAA AGG ATA GTG AGT TTC CAA CCC GAC TAT CCG
leu gly asp leu phe lys his gln glu glu arg ile val ser phe gln pro asp tyr pro
361 /  121                               391 /  131
ATT ACG GCT AGA ATT CAT GCT CAT TTG AAA GCT TAT GCA AAA ATT AAC GAG GAA TCA CTG
ile thr ala arg ile his ala his leu lys ala tyr ala lys ile asn glu glu ser leu
421 /  141                               451 /  151
GAT AGG GCT AGG AGA TTG CTT TGG TGG CAT TAC AAC TGT TTA CTG TGG GGA GAA GCT CAA
asp arg ala arg arg leu leu trp trp his tyr asn cys leu leu trp gly glu ala gln
481 /  161                               511 /  171
GTT ACT AAC TAT ATT TCT CGC TTG CGT ACT TGG TTG TCA ACT CCT GAG AAA TAT AGA GGT
val thr asn tyr ile ser arg leu arg thr trp leu ser thr pro glu lys tyr arg gly
541 /  181                               571 /  191
AGA GAT GCC CCG ACC ATT GAA GCA ATC ACT AGA CCA ATC CAG GTG GCT CAG GGA GGC CGA
arg asp ala pro thr ile glu ala ile thr arg pro ile gln val ala gln gly gly arg
601 /  201                               631 /  211
AAA ACA ACT ACG GGT ACT AGA AAA CCT CGT GGA CTC GAA CCT AGA AGA AGA AAA GTT AAA
lys thr thr thr gly thr arg lys pro arg gly leu glu pro arg arg arg lys val lys
661 /  221                               691 /  231
ACC ACA GTT GTC TAT GGG AGA AGA CGT TCA AAG TCC CGG GGA AGG AGA GCC CCT ACA CCC
thr thr val val tyr gly arg arg arg ser lys ser arg gly arg arg ala pro thr pro
721 /  241                               751 /  251
CAA CGT GCG GGC TCC CCT CTC CCA CGT AGT TCG AGC AGC CAC CAT AGA TCC TTC GGG GGA
gln arg ala gly ser pro leu pro arg ser ser ser ser his his arg ser phe gly gly
781 /  261                               811 /  271
ATA CTA GCT GGC CTA ATC GGA TTA CTG GTA AGC TTT TTC TTG TTG ATA AAA ATT CTA GAA
ile leu ala gly leu ile gly leu leu val ser phe phe leu leu ile lys ile leu glu
841 /  281                               871 /  291
ATA CTG AGG AGG CTA GAT TGG TGG TGG ATT TCT CTC AGT TCT CCA AAG GGA AAA ATG CAA
ile leu arg arg leu asp trp trp trp ile ser leu ser ser pro lys gly lys met gln
901 /  301                               931 /  311
TGC GCT TTC CAA GAT ACT GGA GCC CAA ATC TCT CCA CAT TAC GTC GGA TCT TGC CCG TGG
cys ala phe gln asp thr gly ala gln ile ser pro his tyr val gly ser cys pro trp
961 /  321                               991 /  331
GGA TGC CCA GGA TTT CTT TGG ACC TAT CTC AGG CTT TTT ATC ATC TTC CTC TTA ATC CTG
gly cys pro gly phe leu trp thr tyr leu arg leu phe ile ile phe leu leu ile leu
1021 / 341                               1051 / 351
CTA GTA GCA GCA GGC TTG CTG TAT CTG ACG GAC AAC GGG TCT ACT ATT TTA GGA AAG CTC
leu val ala ala gly leu leu tyr leu thr asp asn gly ser thr ile leu gly lys leu
1081 / 361                               1111 / 371
CAA TGG GCG TCG GTC TCA GCC CTT TTC TCC TCC ATC TCT TCA CTA CTG CCC TCG GAT CCG
gln trp ala ser val ser ala leu phe ser ser ile ser ser leu leu pro ser asp pro
1141 / 381                               1171 / 391
AAA TCT CTC GTC GCT TTA ACG TTT GGA CTT TCA CTT ATA TGG ATG ACT TCC TCC TCT GCC
lys ser leu val ala leu thr phe gly leu ser leu ile trp met thr ser ser ser ala
1201 / 401                               1231 / 411
ACC CAA ACG CTC GTC ACC TTA ACG CAA TTA GCC ACG CTG TCT GCT CTT TTT TAC AAG AGC
thr gln thr leu val thr leu thr gln leu ala thr leu ser ala leu phe tyr lys ser
1261 / 421
TAG

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FIG. 6

ATG	GAC	ATC	GAC	CCT	TAT	AAA	GAA	TTT	GGA	GCT	ACT	GTC	GAG	TTA	CTC	48
Met	Asp	Ile	Asp	Pro	Tyr	Lys	Glu	Phe	Gly	Ala	Thr	Val	Glu	Leu	Leu	
1				5					10					15		
TCG	TTT	TTG	CCT	TCT	GAC	TTC	TTT	CCT	TCA	GTA	CGA	GAT	CTT	CTA	GAT	96
Ser	Phe	Leu	Pro	Ser	Asp	Phe	Phe	Pro	Ser	Val	Arg	Asp	Leu	Leu	Asp	
			20					25					30			
ACC	GCC	TCA	GCT	CTG	TAT	CGG	GAA	GCC	TTA	GAG	TCT	CCT	GAG	CAT	TGT	144
Thr	Ala	Ser	Ala	Leu	Tyr	Arg	Glu	Ala	Leu	Glu	Ser	Pro	Glu	His	Cys	
		35					40					45				
TCA	CCT	CAC	CAT	ACT	GCA	CTC	AGG	CAA	GCA	ATT	CTT	TGC	TGG	GGG	GAA	192
Ser	Pro	His	His	Thr	Ala	Leu	Arg	Gln	Ala	Ile	Leu	Cys	Trp	Gly	Glu	
	50					55					60					
CTA	ATG	ACT	CTA	GCT	ACC	TGG	GTG	GGT	GTT	AAT	TTG	GAA	GAT	CCA	GCG	240
Leu	Met	Thr	Leu	Ala	Thr	Trp	Val	Gly	Val	Asn	Leu	Glu	Asp	Pro	Ala	
65					70				75						80	
TCT	AGA	GAC	CTA	GTA	GTC	AGT	TAT	GTC	AAC	ACT	AAT	ATG	GGC	CTA	AAG	288
Ser	Arg	Asp	Leu	Val	Val	Ser	Tyr	Val	Asn	Thr	Asn	Met	Gly	Leu	Lys	
				85					90					95		
TTC	AGG	CAA	CTC	TTG	TGG	TTT	CAC	ATT	TCT	TGT	CTC	ACT	TTT	GGA	ACA	336
Phe	Arg	Gln	Leu	Leu	Trp	Phe	His	Ile	Ser	Cys	Leu	Thr	Phe	Gly	Thr	
			100					105					110			
GAA	ACA	GTT	ATA	GAG	TAT	TTG	GTG	TCT	TTC	GGA	GTG	TGG	ATT	CGC	ACT	384
Glu	Thr	Val	Ile	Glu	Tyr	Leu	Val	Ser	Phe	Gly	Val	Trp	Ile	Arg	Thr	
		115					120					125				
CCT	CCA	GCT	TAT	AGA	CCA	CCA	AAT	GCC	CCT	ATC	CTA	TCA	ACA	CTT	CCG	432
Pro	Pro	Ala	Tyr	Arg	Pro	Pro	Asn	Ala	Pro	Ile	Leu	Ser	Thr	Leu	Pro	
		130				135						140				
GAG	ACT	ACT	GTT	GTT	AGA	CGA	CCA	GGC	AGG	TCC	CCT	AGA	AGA	AGA	ACT	480
Glu	Thr	Thr	Val	Val	Arg	Arg	Pro	Gly	Arg	Ser	Pro	Arg	Arg	Arg	Thr	
145					150				155						160	
CCC	TCG	CCT	CGC	AGA	CGA	AGG	TCT	CAA	TCG	CCC	CGT	CGC	AGA	AGA	TCT	528
Pro	Ser	Pro	Arg	Arg	Arg	Arg	Ser	Gln	Ser	Pro	Arg	Arg	Arg	Arg	Ser	
				165					170						175	
CAA	TCT	CGG	GAA	TCT	CAA	TGT	TAG									552
Gln	Ser	Arg	Glu	Ser	Gln	Cys										
			180													

FIG. 7



ATG Met 1	GAG Glu	AAC Asn	ATC Ile	ACA Thr 5	TCA Ser	GGA Gly	TTC Phe	CTA Leu	GGA Gly 10	CCC Pro	CTT Leu	CTC Leu	GTG Val	TTA Leu 15	CAG Gln	48
GCG Ala	GGG Gly	TTT Phe 20	TTC Phe	TTG Leu	TTG Leu	ACA Thr	AGA Arg	ATC Ile 25	CTC Leu	ACA Thr	ATA Ile	CCC Pro	CAG Gln 30	AGT Ser	CTA Leu	96
GAC Asp	TCG Ser	TGG Trp 35	TGG Trp	ACT Thr	TCT Ser	CTC Leu	AAT Asn 40	TTT Phe	CTA Leu	GGG Gly	GGA Gly 45	ACT Thr	ACC Thr	GTG Val	TGT Cys	144
CTT Leu 50	GGC Gly	CAA Gln	AAT Asn	TCG Ser	CAG Gln	TCC Ser 55	CCA Pro	ACC Thr	TCC Ser	AAT Asn 60	CAC His	TCA Ser	CCA Pro	ACC Thr	TCT Ser	192
TGT Cys 65	CCT Pro	CCA Pro	ACT Thr	TGT Cys	CCT Pro 70	GGT Gly	TAT Tyr	CGC Arg	TGG Trp	ATG Met 75	TGT Cys	CTG Leu	CGG Arg	CGT Arg	TTT Phe 80	240
ATC Ile	ATC Ile	TTC Phe	CTC Leu	TTC Phe 85	ATC Ile	CTG Leu	CTG Leu	CTA Leu	TGC Cys 90	CTC Leu	ATC Ile	TTC Phe	TTG Leu	TTG Leu 95	GTT Val	288
CTT Leu	CTG Leu	GAC Asp 100	TAT Tyr	CAA Gln	GGT Gly	ATG Met	TTG Leu	CCC Pro 105	GTT Val	TGT Cys	CCT Pro	CTA Leu	ATT Ile 110	CCA Pro	GGA Gly	336
TCC Ser	TCA Ser	ACA Thr 115	ACC Thr	AGC Ser	ACG Thr	GGA Gly	CCA Pro 120	TGC Cys	CGG Arg	ACC Thr	TGC Cys	ATG Met 125	ACT Thr	ACT Thr	GCT Ala	384
CAA Gln 130	GGA Gly	ACC Thr	TCT Ser	ATG Met	TAT Tyr	CCC Pro 135	TCC Ser	TGT Cys	TGC Cys	TGT Cys	ACC Thr 140	AAA Lys	CCT Pro	TCG Ser	GAC Asp	432
GGA Gly 145	AAT Asn	TGC Cys	ACC Thr	TGT Cys	ATT Ile 150	CCC Pro	ATC Ile	CCA Pro	TCA Ser	TCC Ser 155	TGG Trp	GCT Ala	TTC Phe	GGA Gly 160	AAP Lys	480
TTC Phe	CTA Leu	TGG Trp	GAG Glu 165	TGG Trp	GCC Ala	TCA Ser	GCC Ala	CCT Pro	TTC Phe 170	TCC Ser	TGG Trp	CTC Leu	AGT Ser	TTA Leu 175	CTA Leu	528
GTC Val	CCA Pro	TTT Phe 180	GTT Val	CAG Gln	TGG Trp	TTC Phe	GTA Val	GGG Gly 185	CTT Leu	TCC Ser	CCC Pro	ACT Thr	GTT Val 190	TGG Trp	CTT Leu	576
TCA Ser	GTT Val 195	ATA Ile	TGG Trp	ATG Met	ATG Met	TGG Trp	TAT Tyr 200	TGG Trp	GGG Gly	CCA Pro	AGT Ser	CTG Leu 205	TAC Tyr	AGC Ser	ATC Ile	624
TTG Leu 210	AGT Ser	CCC Pro	TTT Phe	TTA Leu	CCG Pro	CTG Leu 215	TTA Leu	CCA Pro	ATT Ile	TTC Phe	TTT Phe 220	TGT Cys	CTT Leu	TGG Trp	GTA Val	672
TAC Tyr 225	ATT Ile	TAA														681

FIG. 8